Voice-data modems	
To 1,200 bits per second	580
To 2,400 bits per second	70[illegible]
To [illegible],800 bits per second	14[illegible]0
With automatic equalization	
Connections	
With 2 voice and data wires	26,650
With 4 analog wires	135,750

Source: Ministry of Postal Affairs

The Italian Telephone Co. is obviously rather pleased. It expects the Mammi decree to give impetus to mass telecomputing, both professional and consumer, in Italy as well. In addition, the Italian Telephone Co.'s plans for this year call for substantial expansion of Videotel services, with the spread of low-cost terminals, to free subscription and to payment based on normal increases in telephone use.

In this connection, Philips Italy had introduced the "active television set" (a Videotel keyboard costing 100,000 lire that can be connected both to a television set and to a household telephone) for its Christmas sales campaign. The first returns show that Philips enjoyed better-than-expected success (sales of approximately 20,000 telecomputing keyboards had been projected). The Italian Telephone Co. intends to offer business firms just as many of the Videotel Omega 1,000 terminals made by Italtel, at a cost of 7,000 lire per month. A large number of banks also plan to launch their own home banking services this year by way of Videotel. What is taking place, in other words, is an expansion long awaited in the world of telecommunications, one that could trigger the snowball effect (fed by users and new services) needed to bring Italian mass telecomputing out of its current stage reserved for a few pioneers (in mid-1988 there were only 20,000 modem users—as many as there were terminals sold at Christmas).

The Mammi decree may have an even greater effect from the professional viewpoint. The deregulation of modems will promote a further spread of corporation networks and of mass telecomputing for small businesses and individual professionals. As a matter of fact, the greatest effect is expected precisely in this second segment, which potentially is the larger and livelier. In other words, 1989 could be the year of data transmission.

Telettra [illegible] Install Phone Lines in Rural USSR

55002425d [illegible] in IL SOLE-24 ORE in Italian
24 Nov 88 p 10—FOR OFFICIAL USE ONLY

[Article: "After 6 Months of Testing, Moscow Acquiring Telettra Systems"]

[Text] Milan—The experimental multiple-access telephone system for rural telephone service that Telettra, a company totally controlled by the Fiat Group, installed last April in the Russian region of Tula, has successfully passed all technical and operational tests, clearing the way for the Italian company to supply these systems, for which negotiations began some time ago through the Italian multinational's Spanish subsidiary (see also IL SOLE-24 ORE of 13 July).

An agreement is to be signed shortly in Moscow setting forth the final details of the cooperation. The agreement, according to plan, should have an overall value of some 15 billion lire annually.

Telettra, as is known, possesses a worldwide leading-edge telephone transmission technology. In fact, to provide telephone service in sparsely populated zones, it uses a microwave system that is much more economical than laying cables.

And this is one of the advantages that enabled the company to bid successfully on the Russian initiative. Telettra's telephone central offices of the analog type are designed for zones with low-density telephone service, where the use of traditional systems would not be competitive. The Telettra system has already been a proven success in Venezuela, Mexico, and Colombia. In Spain, the system is operating in Galicia and Asturias.

SPAIN

Television Satellite Slated for 1992

55001040 Paris AIR & COSMOS in French
15 Oct 88 p 39—FOR OFFICIAL USE ONLY

[Article by Pierre Langereux: "Spanish TV Satellite for 1992; Four Manufacturers Competing for the Fr2-billion Project"]

[Text] Spain has resumed its satellite project—buried in 1985, it was suddenly revived last summer—so that it would have an operational communications and direct television broadcasting satellite system by 1 July 1992.

Actually, the prime objective of the Spanish authorities is for the system to be ready to operate in time for the Seville World Fair scheduled for March to October 1992, for the Barcelona Olympic Games in July 1992, and for the 500th anniversary of Christopher Columbus's discovery of America, to be celebrated on 12 October 1992.

As a result, on 19 July, the National Institute of Aerospace Technology (INTA) invited several European and U.S. satellite manufacturers to submit proposals no later than 15 September. The very day when the INTA was handing over a feasibility study for a Spanish direct-TV satellite to the new minister of PTT [Post and Telecommunications], Mr Barrionuevo who, meanwhile, seems to have decided to accelerate the project.

The selection of a manufacturer for the Spanish satellites should be completed by the end of October, we were told by Jose M. Carballal, the INTA director of international

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programs. In fact, the Spanish cabinet will meet early in November to confirm its commitment to the project, at an estimated cost of 40 billion pesetas, i.e. about Fr2 billion, Jose Carballal indicated.

The invitation to bid, which was exceptionally concise ([illegible] pages), stressed compliance with the schedule for the construction of ground facilities and the delivery of two operational satellites. The complete ground control station (GCS) and project management center (PMC) will have to be installed and acceptance procedures completed by 1 October 1991. The two satellites will have to be delivered in time to be launched on 1 December 1991 and 1 April 1992, and set into service on 1 March and 1 July 1992. An option covers the eventual procurement of a third satellite, the launching of which will be decided as soon as possible.

The contract to be signed with the manufacturer will include acceptance of the satellites on orbit, but the invitation to bid covers neither the launchers nor insurance for the satellites (with free relaunching). A launcher will be selected independently by the INTA before the end of 1989, we were told by Jose Carballal. In principle, the INTA intends to use the European launcher and is not considering negotiating for a U.S. or Chinese launcher, he added. Satellites should not weigh more than about 2 tons, corresponding to one half of an Ariane-4 launcher (twin launch); otherwise the payload would have to be reduced (from 3 to 2 TV channels).

The INTA has received four proposals from satellite manufacturers. Three are from European groups. Satcom International, consisting of Matra [Mechanics, Aviation and Traction Company] (France) and British Aerospace (Great-Britain), proposed a Eurostar platform with a payload to be supplied and integrated by Matra. The Eurosatellite team, consisting of MBB [Messerschmitt-Boelkow-Blohm] and ANT (Germany) together with Aerospatiale and Alcatel Space (France), counts on a Eutelsat-2 platform, whereas Selenia Spazio (Italy) joined forces with GE Astro Space (United States). Finally, Hughes Aircraft (United States) stands alone, probably with its new HS-601 platform which has already been adopted for some 12 civilian (Aussat 2) and military (UFO) satellites. The INTA also consulted Gesat (Germany) and Ford Aerospace (United States), but they did not bid.

The two geostationary satellites (31x West) will carry a triple payload, corresponding to 5 direct television broadcasting and civil and military communications missions. Direct TV using the C-MAC process will use two or three 100-W channels to cover Spain and the Balearic and Canary Islands with 60-cm ground antennas, as well as Europe (France, Germany, Benelux, Italy and Great-Britain) with 1.5-m receiving antennas. Three channels will be provided for Ku-band TV broadcasting over Spain, and one channel over the Americas (PAL and NTSC standards). Public communications (telephone, fax, data transmission and videoconferencing) will use five Ku-band channels through 4.5-m (120-Mbit) or 1-m to 2-m (2-Mbit) stations. Finally, government X-band (encrypted) links will provide telephone (64-Kbit) and data-transmission (16-Kbit) service through fixed 3-m to 7-m stations and 1.8-m offshore or mobile stations. Thus, it will be possible for government links to be received throughout the Spanish territory and up to 500 nautical miles (930 km) off the Spanish coasts, with coverage of Equatorial Guinea as an option.

The consultation initiated by the INTA provides for participation of the Spanish industry to the manufacturing of satellites and stations. This clause should favor manufacturers which already have Spanish subsidiaries, such as Matra (with Crisa) and Alcatel, which will create a new subsidiary of Alcatel Standard Electrica in October; the new subsidiary will specialize in electronics and will be called Alcatel Espacio.

Technical Specifications for the Satellites and Stations of the Spanish Project

Mission	Band	Satellite Channels			Satellite Beams			Ground Stations	
		Number	Power	Width	Number	EIRP*	Coverage	Diameter	Quality**
Direct TV	12 GHz	2 or 3	100 W max.	27 MHz	2	53-56 dBW	Spain + Islands + Europe	0.6 m	+9 db/xK
TV relay - Spain	Ku	3	50 W max.	72 MHz	1 or 2	52 dBW	Spain	2-2.5 m (TV)	20-22 dB/xK
								3.5-4 m (HDTV)	25-27 dB/xK
TV relay - Americas		1	100 W max.	36 MHz	1	45 dBW	North & South America, Mexico	3 m	24 dB/xK
Civil communications	Ku	5	20 W (?)	72 MHz	1	32 dBW	Spain	4.5 m	29 dB/xK
								1-2 m	13-20 dB/xK

Government communications	X, needed	1	(?)	(?)	1	(?)		Spain + 900 km offshore	3-7 m	22-30 dB/xK
[illegible]									1.8 m	15 dB/xK

* Equivalent Isotropic Radiated Power (EIRP) in decibel-Watt (dBW)
** Quality factor: gain/noise temperature ratio expressed in decibels/degrees Kelvin (dB/xK)

UNITED KINGDOM

Defence Satellite Moves Into Orbit

35500037 London THE GUARDIAN in English 25 Dec 88 p 8—FOR OFFICIAL USE ONLY

[Article by David Fairhall, Defence Correspondent]

[Text] The first of the Ministry of Defence's L50 million Skynet communications satellites moved into orbit above the Equator last night.

The Skynet 4 programme acquired notoriety last year when it was alleged that one of its three satellites would be equipped not for communications, but for spying on the Soviet Union, under the code-name Zircon.

Plans to develop a radio surveillance satellite were disclosed by the journalist, Duncan Campbell. He suggested the launch of Skynet 4C, scheduled for orbit above the Indian Ocean in May 1990, was a perfect cover for the Zircon project, whose costing and justification was deliberately hidden from Parliament.

Ministers have acknowledged the existence of such plans, although they have been shelved—at least for the time being—but denied using Skynet as a cover. Three satellites are needed, an official said yesterday, so as to have two operational and one in orbit as a spare.

Skynet 4B, now being manoeuvred into its final position above the Atlantic, is intended to cover the NATO area. Skynet 4A will go up in August next year aboard an American Titan 3 rocket to provide the orbiting back-up. Its initial position will also be above the Atlantic.

The last in the series, Skynet 4C, will be launched by a French Ariane rocket in May 1990 and positioned off East Africa, level with the Equator.

It has never been entirely clear how the expense for the third satellite was being justified when Britain no longer had a serious military role east of Suez and would be withdrawing from Hong Kong in the 1990s.

"We have withdrawn from the Far East," a Ministry of Defence official said yesterday, "but we still need to retain some capability to communicate with naval ships out there."

UK Database Service Reportedly Worth L546m

35500035 London THE TIMES in English 12 Dec 88 p 31—FOR OFFICIAL USE ONLY

[Article by Ken young, Editor of COMMUNICATE Magazine]

[Text] According to EPS, a specialist consultancy in information markets, the UK information service market is worth L546.5 million and has more than 800 services on offer.

This puts Britain in a market-leading position with around 54 per cent of the European market, valued at nearly L1.1 billion. This is due mainly, says EPS, to its lead in supplying equity trading and foreign exchange services.

UK service providers are beginning to market their services in Europe, but penetration is relatively low.

EPS says: "Due to international telephone and data connections most services are potentially available throughout Europe, but in practice most services are only targeting one or two countries."

Language barriers are also a problem. "Some databases offer multi-lingual services, but language will continue to be a barrier until English becomes the standard business language."

By far the fastest growing sector of the on-line market is financial information services. These provide around 45 per cent of the UK revenue. A typical example is Compass Online, which holds data on 110 companies. Users can search for information relating to a company or a country, or by choosing one of the 45,000 produce categories.

In Britain, space frequency is available from the BBC and the IBA for the transmission of data throughout the TV network—effectively 98 per cent of the British Isles. One of the key users in the UK is the Stock Exchange which uses the system to transmit its Market Eye service, comprising data on UK equities, gilt-edged securities and London-traded international stocks.